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AUTHOR Nesbit, Lamar, Jr.; Tadlock, James
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ABSTRACT

A large school district (Jackson, Mississippi) has implemented a state-of-the-art teacher evaluation procedure that yields a numerical performance value. A screening procedure for teacher employment has also been developed that provides several quantitative variables against which performance can be analyzed. All teachers are subject to the school district's mixed-criteria reduction-in-force procedures which include an annual performance evaluation score derived from ratings on 18 criteria. It is through the evaluation score that a measure of teaching performance common to all staff is found. This paper describes briefly both processes, although the primary objective of the study was an evaluation of the screening procedure using evaluation results as the criterion variable. Teacher performance scores are presented for the general teacher population (N=712) and the sample, teachers employed since implementation of the screening procedure (N=151). An evaluation statistical table depicts score ranges, mean, sigmas, standard error values, and z scores for both groups. Data are separated for different school levels. Variables from which data were generated from the teacher screening procedure include: in-district experience, outside experience, certification level, race, grade-point average, National Teacher Examination score, and screening interview score.
 (JD)

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**"DENOUEMENT OF A TEACHER SELECTION PROCESS:
DOES IT PREDICT SUCCESSFUL CLASSROOM PERFORMANCE?"**

**A PAPER PRESENTED TO THE ANNUAL MEETING OF THE
AMERICAN EDUCATIONAL RESEARCH ASSOCIATION**

SAN FRANCISCO, CALIFORNIA

APRIL 20, 1986

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BY

LAMAR NESBIT, JR., ED. D.

AND

JAMES TADLOCK, PH. D.

**JACKSON (MS) MUNICIPAL SEPARATE SCHOOL DISTRICT
ROBERT N. FORTENBERRY, ED. D., SUPERINTENDENT**

ED268118

SP 027 496

DE·NOUE·MENT: THE OUTCOME OF A COMPLEX SEQUENCE OF EVENTS

WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY, 1984

INTRODUCTION

One activity implicit to the operation of a large school system is the employment of new teachers each year, the expense and administrative details of which can be considerable. Various schemes have been implemented by school districts across the nation to help assure the employment of well-qualified teachers. This paper will present certain data attendant to the staff selection process in this school district with limited conclusions regarding its effectiveness.

BACKGROUND

Two events set the stage for this study and also provided the basis for data that will be presented:

- A. Since 1978, this school district has employed a multi-faceted screening procedure for teacher applicants. (Details of this process may be found in the appendix to this paper.)
- B. All teachers are subject to the school district's mixed-criteria reduction-in-force procedures which include an annual performance evaluation score derived from ratings on eighteen (18) criteria. It is through the evaluation score that a measure of teaching performance common to all staff is found.

Data compiled from the applicant screening and reduction-in-force processes provided the variables which are examined in this study.

PURPOSE OF THE STUDY

The purpose of this paper is to present descriptive data relative to the screening procedure which will yield a quasi-evaluation of that process. Specific hypotheses are not offered. However, the guiding logic is that teachers who have been employed since the inception of the district's rigorous screening requirements would be assigned higher evaluation ratings than would those employed prior to the beginning of the screening procedures since they were the object of more pre-employment scrutiny.

PRESENTATION OF DATA AND FINDINGS

TABLE I: EVALUATION SCORE DESCRIPTIVE STATISTICS:

Table I presents basic summary data for this study. The number of the number of teachers, high score, low score, mean score, sigma, standard error, and z score are shown for elementary, junior high, senior high, and district total for both the population (all teachers) and the sample (teachers employed through the screening process). Significance tests are hardly needed to determine that evaluation scores for the sample are not significantly different from the evaluation scores for the population. A comment following the table gives a reference to the magnitude of the differences in scores between the sample and the population.

TABLE II: OUT-OF-DISTRICT TEACHING EXPERIENCE OF RECENT EMPLOYEES:

Table II actually is a cross-reference showing the number of teachers employed during each of the last six years and the number of years of out-of-district teaching experience for each of those years. An unexplained peculiarity here is that of the teachers employed during the last six years, the majority of the group had no experience out-of-district (new teachers) or they had six or more years experience out-of-district. This district has obviously not employed many teachers with out-of-district experience between 1-5 years.

TABLE III: FREQUENCY DISTRIBUTION OF IN-DISTRICT EXPERIENCE OF RECENT EMPLOYEES:

Table III represents the experience in the Jackson Public Schools of teachers employed in the past six years. Out-of-district experience is not indicated here. Since the most common unit of experience is a full year, the class intervals show those with a full year of experience and those with part of a year. Those with less than a year's experience would have been employed after the beginning of a school year.

TABLE IV: CERTIFICATION LEVELS OF RECENT JACKSON PUBLIC SCHOOLS EMPLOYEES:

The data are offered as a general description of the teaching staff. The certificate held by the largest number of teachers is the A certificate (bachelor's degree) and the next largest number of certificates is AA (master's degree). The percent of certificates for the AAA (specialist degree) and the AAA+ (doctorate) is very small. The percentage of A and AAA certificates does differ considerably between the sample and the total group.

TABLE V: STAFF DEVELOPMENT POINTS EARNED BY RECENT JACKSON PUBLIC SCHOOLS EMPLOYEES:

Table V indicates that about sixty-six percent of the teachers earned between 40 and 100 staff development points during the year immediately past. The reader is reminded that some of the points have been accumulated through required activities and other points are accumulated through college courses and/or other specified activities. (One staff development point equates to one clock hour of inservice participation.)

TABLE VI: INTERCORRELATION MATRIX

Table VI lists correlation coefficients for the following variables:

SDP - Staff Development Points

CERT - Certification Level, 1=A, 2=AA, 3=AAA, 4=AAA+

EVAL - Evaluation Score

RACE - Race

GPA1 - College Grade Point Average, Total

GPA2 - College Grade Point Average, Subject Area

NTE - National Teachers Exam Score, Composite

SCR - Screening Score Assigned By The Interview Team

Disappointingly, the most interesting information from the correlation matrix are the low correlations between almost all variables and the criterion of evaluation score and particularly the criterion of screening score. The relationship of GPA1 and GPA2 is of no surprise, but the strength of relationship between remaining variables has no ready explanation. The strongest relationships with applicant screening scores were found with evaluation ratings and National Teacher Exam scores, although neither was significant.

TABLE VII: MULTIPLE REGRESSION MODELS:

Table VII contains models with criteria specified as evaluation score, screening score, and National Teacher Examination score. The composite amount of variance accounted for in the evaluation score by all variables is less than six percent. The composite amount of variance in the screening score that is accounted for by other variables is about five percent.

TABLE I

EVALUATION SCORE STATISTICS FOR TEACHERS
EMPLOYED BY THE JACKSON PUBLIC SCHOOLS DURING
THE LAST SIX YEARS COMPARED WITH
EVALUATION SCORES FOR ALL TEACHERS

STATISTIC	<u>ELEMENTARY</u>		<u>JUNIOR HIGH</u>		<u>SENIOR HIGH</u>		<u>TOTAL</u>	
	<u>POP</u>	<u>SAM</u>	<u>POP</u>	<u>SAM</u>	<u>POP</u>	<u>SAM</u>	<u>POP</u>	<u>SAM</u>
NUMBER	712	151	414	102	330	63	1521	316
HIGH	50.00	48.67	48.73	48.73	48.75	46.92	50.00	48.73
LOW	28.08	28.08	5.58	32.92	28.31	28.31	15.58	28.08
MEAN	42.47	42.22	40.22	40.28	40.22	39.95	41.25	41.14
SIGMA	2.86	2.83	2.85	2.53	2.44	2.61	2.96	2.88
STD ERROR	0.11	0.23	0.14	0.25	0.13	0.33	0.08	0.16
Z SCORE(*)		0.02		0.01		0.03		0.92

(*) These "Z" values are calculated from the mean sample score as compared with the mean population score. Such values must exceed 1.96 to be significant at the .05 level or 2.58 to be significant at the .01 level of confidence.

TABLE II

FREQUENCY DISTRIBUTION OF YEARS TEACHING EXPERIENCE
OUT OF JACKSON FOR TEACHERS WITH
SIX OR LESS YEARS EXPERIENCE IN JACKSON

TEA EX IN JPS	-----YEARS TEACHING EXPERIENCE OUT OF JPS-----						6	TOTAL
	0	1	2	3	4	5		
LT 1	2	1	0	1	1	1	1	7
1	15	6	7	6	6	2	26	68
2	13	3	4	5	9	5	23	62
3	10	3	1	2	4	1	10	31
4	10	4	2	2	2	7	11	38
5	14	3	5	3	7	2	26	60
6	12	8	6	4	5	3	12	50

TABLE III

FREQUENCY DISTRIBUTION OF YEARS TEACHING EXPERIENCE
IN JACKSON PUBLIC SCHOOLS FOR TEACHERS EMPLOYED
DURING THE LAST SIX YEARS

<u>CLASS INTERVAL--YEARS EXPERIENCENG EXPERIENCE</u>	<u>NUMBER OF TEACHERS</u>
LT 1.0	7
1.0	57
1.1---1.9	10
2.0	46
2.1---2.9	16
3.0	15
3.1---3.9	15
4.0	19
4.1---4.9	19
5.0	43
5.1---5.9	19
6.0	50

TABLE IV

FREQUENCY DISTRIBUTION BY CERTIFICATION LEVELS
OF TEACHERS EMPLOYED BY JACKSON PUBLIC SCHOOLS
DURING THE LAST SIX YEARS

<u>CERTIFICATION LEVEL</u>			<u>A</u>	<u>AA</u>	<u>AAA</u>	<u>AAA+</u>	<u>TOTAL</u>
SAMPLE	NUMBER	=	161	132	22	1	316
	PERCENT	=	51	42	7	-	
POPULATION	NUMBER	=	451	732	305	33	1521
	PERCENT	=	30	48	20	2	

TABLE V

FREQUENCY DISTRIBUTION OF DISTRICT STAFF DEVELOPMENT
POINTS ACCUMULATED BY TEACHERS EMPLOYED BY THE
JACKSON SCHOOLS DURING THE LAST SIX YEARS

<u>NUMBER OF STAFF DEVELOPMENT POINTS</u>	<u>NUMBER OF TEACHERS</u>
0--- 40	40
41--- 60	113
61--- 80	94
81---100	27
101---120	24
121---160	18

TABLE VI
INTERCORRELATION MATRIX
SCREENING PROCESS EVALUATION

<u>VARIABLES</u>	<u>1</u> <u>SPD</u>	<u>2</u> <u>CERT1</u>	<u>3</u> <u>CERT2</u>	<u>4</u> <u>CERT3</u>	<u>5</u> <u>CERT4</u>	<u>6</u> <u>EVAL</u>
1 SPD	1.0000	-0.0420	0.0482	-0.0294	0.0092	0.1519
2 CERT1	-0.0420	1.0000	-0.0154	-0.0477	-0.0574	0.0533
3 CERT2	0.0482	-0.0154	1.0000	-0.2317	-0.2788	0.0090
4 CERT3	-0.0294	-0.0477	-0.2317	1.0000	-0.8632	0.0379
5 CERT4	0.0092	-0.0574	-0.2788	-0.8632	1.0000	-0.0475
6 EVAL	0.1519	0.0533	0.0090	0.0379	-0.0475	1.0000
7 RACE	0.0566	-0.0711	-0.2683	-0.1587	0.3011	0.0632
8 GPA1	0.0631	0.0865	-0.2229	-0.0691	0.1720	0.0308
9 GPA2	0.0369	-0.0333	-0.2500	-0.0914	0.2214	0.0653
10 NTE	0.0566	0.0051	-0.2060	-0.0628	0.1663	0.0695
11 SCR	0.0408	0.0941	0.0138	0.0305	-0.0477	0.1403
MEANS =	66.3386	0.0032	0.0696	0.4177	0.5095	41.1406
SIGMAS =	27.2561	0.0562	0.2545	0.4932	0.4999	2.8993

<u>VARIABLES</u>	<u>7</u> <u>RACE</u>	<u>8</u> <u>GPA1</u>	<u>9</u> <u>GPA2</u>	<u>10</u> <u>NTE</u>	<u>11</u> <u>SCR</u>
1 SPD	0.0566	0.0631	0.0369	-0.0515	0.0408
2 CERT1	-0.0711	0.0865	-0.0333	-0.0051	0.0941
3 CERT2	-0.2683	-0.2229	-0.2500	-0.2060	0.0138
4 CERT3	-0.1587	-0.0691	-0.0914	-0.0628	-0.0305
5 CERT4	0.3011	0.1720	0.2214	0.1663	-0.0477
6 EVAL	0.0632	0.0308	0.0653	0.0695	-0.1403
7 RACE	1.0000	0.2395	0.2855	0.6424	0.0740
8 GPA1	0.2395	1.0000	0.8130	0.3325	0.0348
9 GPA2	0.2855	0.8130	1.0000	0.3377	0.0053
10 NTE	0.6424	0.3325	0.3377	1.0000	0.1190
11 SCRE	0.0740	0.0348	-0.0053	0.1190	1.0000
MEANS =	0.6139	2.7108	2.8682	1089.5791	87.1424
SIGMAS =	0.4868	0.6832	0.6897	170.7220	5.3018

TABLE VII

REGRESSION MODELS WITH CRITERIA
OF EVALUATION SCORE, SCREENING SCORE, AND NTE SCORE

<u>CRITERION</u>	<u>VARIABLES INCLUDED IN THE MODEL</u>	<u>RSQ</u>	<u>DIFF*</u>
EVAL	SDP--CERT--RACE--GPA1--GPA2--NTE--SCR	.0573	
SCR	SDP--CERT--RACE--GPA1--GPA2--NTE	.0317	

FINDINGS AND CONCLUSIONS

1. Obviously no significant difference can be shown between mean evaluation scores for all teachers and for teachers employed after implementation of the current screening process. This should not be taken as condemnation of the screening process because the process can be fully justified on the bases of administrative convenience and standardization of employment procedures. But if we are looking for a strong relationship between these variables, such is not found. Teachers employed before the screening process began fare as well on evaluation scores as those employed who successfully completed the screening process.

Several conclusions may be drawn explaining the lack of such a relationship:

- A. Prior to the implementation of the screening process, principals may have used some informal, personal methods for staff selection that were as effective as the formal process now used.
 - B. Perhaps there is insufficient discrimination of teaching differences produced by the evaluation procedure to justify use of the evaluation score as a criterion.
 - C. Perhaps there is insufficient discrimination of applicants in the screening procedure itself. (The screening process apparently generates an employment pool that is quite representative of the employee population.)
2. The strength of relationships between variables brought several surprises. At least moderate strength was expected between screening score and evaluation score. Such was not the case. Under present conditions, one could assume that pre-employment requirements such as these can only serve to eliminate applicants with obvious technical deficiencies without the capacity to predict successful teaching.
 3. The teacher evaluation procedure may not be an appropriate criterion for evaluation of the screening process. It is possible also that deficiencies in the inter-rater reliability factor inherent in the evaluation process may serve to confound results in this type of analysis.

4. Additional study is recommended beginning with careful statements of hypotheses. To be included in further study should be the following:
 - A. An evaluation of the administrative convenience of the screening process;
 - B. The use of a criterion other than the teacher evaluation score to predict successful teaching performance;
 - C. A survey of teachers who have been employed through the screening process to determine their perceptions;
 - D. The establishment of a comprehensive entry/exit data collection process; and
 - E. Examination of the screening process itself, particularly with regard to the manner in which the screening score is derived. (Presently, rotating teams of interviewers determine screening scores and ultimate employment eligibility. Perhaps a standing interview team or at least the inclusion of a personnel officer as a permanent member of the interview team would lend more consistency to the process.)

APPENDIX

STEP I

PLACE APPLICATION ON FILE

All Applicants Must:

1. Place an Application for Employment on file in the Office of Personnel Services at 662 South President Street or call 948-1738 and request that an Application for Employment be mailed.
2. Mail the completed and signed Application for Employment along with:
 - a. Transcript showing bachelor's degree
 - b. Mississippi Teaching Certificate - if Issued
 - c. N.T.E. Scores - Core Battery and Speciality Area Tests
 - d. Verification of former employment - if applicable
 - e. Reference letters (3) to be returned to Office of Personnel Services after being completed by the appropriate people.
3. *Former employees must complete the same process of employment as is required of all other candidates. However, permanent files are still on record for all former teachers who have been employed after 1-1-80 and most documents may already be on file.

*Employees who terminated prior to May 1978 or who have not completed screening requirements.

STEP II

INTERVIEW BY PERSONNEL OFFICER

4. After all documents in STEP I are on file, a personnel officer will review each applicant's credentials and determine the total number of points earned by allowing credit for grade-point averages, N.T.E. scores, references and prior experience.
5. If the total points earned is less than eleven (11) the applicant will be interviewed by a personnel officer who may add points to the applicant's score as a result of this interview.
6. Those applicants determined eligible to proceed to the screening committee by the acquisition of 11 points or more will then be asked to respond in writing to two (2) randomly selected questions. These written questions will be completed and evaluated in the personnel office before being submitted to the screening committee.

STEP III

INTERVIEW WITH PROFESSIONAL SCREENING COMMITTEE

7. The applicant will now be scheduled for interview by the Professional Screening Committee which is composed of principals, personnel officers, and curriculum specialists. The Office of Personnel Services will notify the applicant of the time and date.
8. Applicants judged to be eligible for employment as a result of achieving an average score of seventy-five (75) points out of one hundred (100) points given by the Professional Screening Committee, exclusive of any points earned earlier in the employment process, will be advised and placed on a list of candidates eligible for recommendation by a principal and employment in the Jackson Public Schools.
9. Applicants who fail to qualify for recommendation by a principal because accumulated scores from the screening committee are less than 75 points, exclusive of any points earned earlier in the selection process, will become inactive candidates for that calendar year. Such persons may apply one additional time during the next screening period.

10. Upon completion of this phase of the employment process the candidate's name will be placed on the list of approved applicants. Persons may then be interviewed and recommended by a principal for employment in the Jackson Public Schools.

STEP IV

RECOMMENDATION BY A PRINCIPAL

11. When a vacancy occurs in a school, the building principal will review the files of those candidates eligible for employment, who have satisfactorily completed the screening requirements. Approved candidates will be interviewed and formally recommended for employment in the Jackson Public Schools. Prior to issuance of a Contract of Employment the candidate will place the following documents on file:

- a. Valid Mississippi Teaching Certificate in Area
- b. State & Federal Tax Forms
- c. State Retirement Card
- d. Health Form
- e. Cafeteria Form(s) for Tax Purposes, if applicable

Candidates who are declared eligible for recommendation and employment but who are not offered a job for the coming session may continue to be active candidates for employment for a period of up to three (3) years. After a three (3) year period their application will be placed in the inactive file. Should eligible candidates wish to become active candidates at a later time, they may request such in writing, and submit a supplementary application form.

STEP V

REPORTING TO WORK

12. As soon as the permanent file is complete and the Superintendent of Schools has approved the principal's recommendation, the Board of Trustees will be asked to approve the appointment and upon approval, a Contract of Employment will be issued.

NOTE: Only applicants who have completed the process of employment as described above shall be declared eligible for a recommendation by a principal and subsequent employment by the Board of Trustees.

7-84

SCREENING PROCESS FOR SELECTION OF TEACHER CANDIDATES

Jackson Public Schools
Office of Personnel Services
662 South President Street
Jackson, Mississippi 39201-5695

An Equal Opportunity Employer

RECORD OF POINTS EARNED IN SCREENING PROCESS

NAME _____ Personnel Officer _____
Subject Area _____ Date Interviewed _____
Race _____
Sex _____
Bachelor's Degree _____ Total Grade Point Average _____
Field Grade Point Average _____
N.T.E. Composite Score _____ Area _____ Common _____
Com. Skills _____ Gen. Know. _____ Prof. Know. _____ Area _____
Reference Letters _____
Former Employment (Years) _____
Personnel Officer's Interview _____

TOTAL POINTS - STEPS I & II

PROFESSIONAL SCREENING COMMITTEE INTERVIEW

Date Interviewed by Professional Screening Committee _____

Final Score

12/84